NSERC CRSNG

NSERC Contact

Volume 20, No. 2
Fall 1995

NSERC President to Step Down

When Dr. Peter Morand leaves NSERC on October 1, the end of his term, he will be leaving behind a Council that has changed markedly during his tenure. When he came to NSERC five years ago, the former Vice-Rector for University Relations and Development at the University of Ottawa brought with him a valuable blend of experience in research and administration within the academic, government, and private sectors. He has since shown great dedication in addressing the many challenges found in the changing research environment.

At the June 15 ceremony honouring winners of NSERC's prestigious awards for 1995, Dr. Robin Armstrong, Vice-President of Council, paid tribute to Dr. Morand.

"He has not only played a key role in positioning research in Canada, but he has also initiated bold steps to prepare NSERC and the university research community for an even brighter future in this country," said Dr. Armstrong.

Dr. Morand's term was marked by a long list of achievements and innovations. He led the development and implementation of the organization's first business plan which provided a master plan for NSERC's activities. Under his leadership, NSERC also became more responsive to the needs of its clients through a re-engineering of administrative processes and the better integration of information processing technology. Dr. Morand also championed a closer relationship with NSERC's two sister councils, which has led to joint policies and activities of interest to researchers in all fields and disciplines. The publication of a Tri-Council Policy Statement on Integrity in Research and Scholarship was followed in November 1994 by a national conference on "Integrity in Research and Scholarship", the first such conference to be held in Canada. During the summer of 1994, he led one of the groups involved in the government's S&T review and directed NSERC's participation in the government-wide program review.

"Peter's numerous contributions to NSERC also have had a profound impact on the very core of the research activity in this country," said Dr. Armstrong. "The development and now the

implementation of NSERC's Strategy is probably his crowning achievement. This Strategy, which offers renewed opportunities for research in Canada, is the result of a strong commitment by Council but, more importantly, it is the result of his enthusiasm, tenacity, and dedication."

President's Message

My term as President of NSERC coincided with turbulent times of government downsizing, fiscal restraints, and concerns about the role of universities and Canada's position in the global marketplace. With the help of dedicated Council members and the input of a large number of Canada's science and engineering community, NSERC has responded to these challenges and has not shied away from taking initiatives to make the organization more relevant in today's society and to anticipate what lies ahead.

One of NSERC's most farreaching actions during my tenure as President was the formulation of a new Strategy, Partnerships in Knowledge: Maximizing the investment in university research. Ensuring strong support for university research in Canada is crucial for achieving the Strategy's goals: increased collaboration among researchers and sectors; more student exposure to research in other sectors; and enhanced levels of accountability and communication among university researchers and the public. If NSERC does not meet these objectives, I believe its funding and prestige will both suffer, to the ultimate detriment of the entire university research system. This Strategy, as well as the decision to focus on core programs, the new allocation process among disciplines, and the continuing efforts to identify appropriate performance indicators for our programs, are key to dealing effectively with the diverse challenges of diminishing resources, the increasing pressure to demonstrate accountability, and an expanding university research community.

What has distressed me most during my term has been the continuing polarization in the university community between those who believe that basic research is the only type of research which should be funded by NSERC and those who support the premise that goal-oriented research is the best investment for government. In my view, this infighting is doing irreparable harm to the research enterprise in this country. Those who insist that basic research is the only legitimate investment for public research funds run the strong risk (especially in Canada's current economic climate) of being perceived as self-serving and indifferent to their responsibility to society which provides the money. Recent attacks reported in the press on NSERC grant titles are examples of this kind of perception. On the other hand, those who advocate spending all the money on short-term Applied research would have us abandon the long-term efforts that underpin all research and

development. Finding a balance between the two is what NSERC strives to do and, in spite of the criticisms received, I believe we are fairly close to getting it right.

My successor will be arriving at a time when fiscal decisions by the federal and provincial governments will require accelerated changes within universities if they are to survive in this new environment. At the federal level, the drastic reduction of Established Program Financing (EPF) will be felt by universities beginning in fiscal year 1996-97; at the provincial level, the pressure to do more with less will continue. Meanwhile, the teaching versus research debate is intensifying and, although the continuum between the two has always been there, pressure is being exerted by some to shift resources away from research within universities. What effect will this have on graduate student training On Canada's supply of highly qualified personnel?

The tenure system is also under attack; many see it as providing a level of security and immunity from accountability that is simply not acceptable in these times. There is a growing split between tenured faculty and untenured lecturers in contract positions which do not provide the same opportunities for performing research. Is the tenure system on the way out? What will happen to Canadian research if such untenured positions become the norm?

With provincial funding for universities on the decline, some universities are becoming hard-pressed to maintain their current facilities, let alone upgrade them. Where is NSERC's role in all this? Historically, NSERC has provided funding only for the direct costs of research should Council now consider covering indirect costs as well? Will NSERC have to re-examine its criteria for the eligibility of departments and universities to qualify for grants and scholarships? If tuition fees increase substantially, should the value of NSERC scholarships keep pace at the expense of decreasing the number of scholarships offered each year?

NSERC must anticipate and facilitate these and other changes, as well as take the necessary actions to ensure that its programs benefit the research community and Canada. I am confident that NSERC is equal to the task - it has an experienced and highly motivated staff as well as a large number of dedicated volunteers from the research community who provide advice on policy matters and funding decisions.

At this point, I want to say a special word of thanks to the hard-working NSERC staff, who have been very supportive throughout these years of often-difficult change. They have risen to the many challenges, and their energy and creativity is much appreciated. I feel proud to have had the opportunity to work with such excellent individuals.

It has been my good fortune to spend the past five years in a mo t stimulating and enriching environment - I will certainly

want to keep in touch!

NSERC to Host International Symposium on R&D Impact

Like all public agencies, NSERC must account for its investment of public monies, in part by selecting and using appropriate tools to measure the link between grants and scholarships, and research or training results. Increasingly, however, research funders, providers, and users are interested in how and when R&D output will translate into socio-economic returns and in the adjustments to allocations policy that may be needed to achieve these returns. Given the importance of the topic to all research funding and policy agencies, NSERC has decided to host an international symposium on "Measuring R&D Impact", to be held at the Citadel Inn in Ottawa, September 13-15, 1995.

The symposium will bring together approximately 120 senior policymakers, heads, and representatives of funding agencies from Canada and abroad. Speakers from several countries will present their views on how and why research output is measured and on the influence of output measurements on program structure, policy, funding, priority-setting, and economic well-being. They will review developments in the carrying out of research and in the expectations of governments, funding agencies, the private sector, and the general public. Representatives of organizations from several countries and from intergovernmental bodies will share their experiences and insights. Questions such as whether national policies constrain or stimulate research, or lead to changes in science structures, will be examined.

In the first session, chaired by Michael Gibbons, Director of the Science Policy Research Unit at the University of Sussex (U.K), speakers will examine the changing nature of the research enterprise. This will be followed by a look at the expectations and requirements of different sectors. Current methodologies and tools such as bibliometric and non-bibliometric indicators will be presented by eminent speakers including Francis Narin, President of CHI Research, Inc. (U.S.), and the strengths and weaknesses of different performance indicators will be debated. Neal Lane, Director of the National Science Foundation (U.S.), will chair a panel on practices in different intergovernmental agencies and countries: Canada, China, Hungary, the European Union, and the United Kingdom, as well as the Organisation of Economic Co-operation and Development.

The special invited speaker, Paul David, Professor of Economics at Oxford and Stanford universities, will present his own insights on R&D impact.

The symposium will be chaired jointly by Dr. Peter Morand, President of NSERC, and Professor Zhang Cunhao, President of the National Natural Science Foundation of China (NNSFC).

Three New Council Members Appointed

Industry Minister John Manley and Dr. Jon Gerrard, Secretary of State for Science, Research and Development, recently announced the appointment of Drs. Gilbert Dronin, John Grace, and Nancy Reid to NSERC and the reappointment of Dr. Julia Levy and Mr. J. Ronald McCullough. "These individuals have been selected for their expertise and professional accomplishments," said Mr. Manley. "They bring to NSERC and to the Canadian research community a diverse range of academic, research, and management experience." All of the appointments and reappointments are for three-year terms.

Dr. Gilbert Drouin is the Dean of Graduate Studies and Research at École Polytechnique and a renowned researcher in biomechanics and readaptation. A 1966 graduate in Mechanical Engineering from École Polytechnique, he received his Master's from Cornell University in Mechanical Engineering (1972) and his Ph.D. in Biomedical Engineering (1976) from the University of Virginia. Dr. Drouin has served as a member of several NSERC committees including its Steacie and Gold Medal Committees and the Committee on Research Grants. He has also been group chair for several of the Council's engineering grant selection committees.

Dr. John Grace has held academic positions at McGill University and the University of British Columbia, and is currently the Dean of Graduate Studies at the University of British Columbia. He is Chair of the Board of Directors of the Chemical Institute of Canada and the recipient of several awards, including the U.B.C. Killam Research Prize (1988). He received his Bachelor of Engineering Science Degree (1965) from the University of Western Ontario, and his Ph.D. in Chemical Engineering from Cambridge University (1968). Dr. Grace served as member and chair of NSERC's Canada International Fellowships Selection Committee and Chemical and Metallurgical Engineering Grant Selection Committee, and is currently a member of its Committee on Scholarships and Fellowships.

Dr. Nancy Reid is a Professor, Department of Statistics, at the University of Toronto, and the editor of the Canadian Journal of Statistics. Since 1980, she has held various academic positions at Imperial College London, the University of British Columbia, Harvard University, the University of Texas, and the University of Toronto. She received her Bachelor of Mathematics (1974) from the University of Waterloo, her Master's of Science (1976) from the University of British Columbia, and her Ph.D. (1979) from Stanford University. Dr. Reid recently became the first recipient of the Canadian Mathematical Society's Krieger-

Nelson Prize Lectureship, and is President Elect of the Institute of Mathematical Statistics.

National Science and Technology Week '95

Now in its sixth year, National Science and Technology Week (NSTW) is a ten-day celebration of science, engineering, and technology. Its goal is to help create an innovative culture that: values entrepreneurship; fosters scientific research; aggressively Applies new technologies; and celebrates national science, engineering, and technology achievements.

From October 13 to 22, more than 2,000 events across the country will encourage Canadians of all ages to discover new frontiers, learn something different, and appreciate the contribution that science and technology make to our economy and our way of life.

To find out how you, your university, business, or association can get involved, call the National Science and Technology Week Secretariat, in Ottawa, at 1-800-268-6608, or send a fax to 1-613-998-0943. You can also obtain information from the NSTW sites on the Internet: Gopher (gopher schoolnet.carleton.ca 420); World Wide Web ; and listserver (explore@schoolnet.carleton.ca) .

NSERC Awards Ceremony

The 1995 Canada Gold Medal for Science and Engineering was presented to Dr. Peter Hochachka, Professor of Zoology at the University of British Columbia, at an awards ceremony in Ottawa on June 15.

In his remarks, Dr. Hochachka paid tribute to his mentors for instilling in him the spirit of inquiry and discovery that led him on the path to winning the award. "It is rare in a career and rare amongst scientists to receive awards like the Canada Gold Medal for Science and Engineering as a special kind of positive reinforcement - which is why in appreciation it is all the more important to put the whole thing in perspective, he said.

Representatives from the government, academia, and the business community attended the event, during which awards were also presented to the winners of the E.W.R. Steacie Memorial Fellowships and the NSERC Doctoral Prizes winners.

The text of Dr. Hochachka's speech can be obtained from the Internet (GOPHER. NSERC.CA, port 70) under "Speeches" in the "What's Happening at NSERC?" section.

Task Force on Women in Science and Engineering

Chair:

Dr. Monique Frize
University of New Brunswick

Members:

Dr. Paula Capian, University of Toronto
Dr. Claire Deschenes, Laval University
Dr. John Kendall, University of Calgary
Ms. Maria Lantin, Simon Fraser University
Dr. Ann C. McMillan, Environment Canada
Dr. Judith Myers, University of British Columbia
Dr. Robert Papineau, École de technologie supérieure
Dr. Barbara Sherriff, University of Manitoba
Ms. Caroline Stone, Carleton University
Dr. Thomas Traves, Dalhousie University

Project Officer:

Ms. Teresa Jurewicz, NSERC

Council in Brief

At its 60th meeting held in Ottawa on June 15-16, 1995, Council addressed several pressing issues that will affect program delivery.

Following a request by Council in June 1994, staff had reviewed various options regarding the eligibility of adjunct status Applicants whose primary place of employment is other than a university (i.e., industry or government). The options included the status quo, placing restrictions on the use of funds by adjuncts, allowing them to Apply only as coApplicants on group grants, and eliminating their eligibility. After a careful review of the possible approaches presented by staff and in light of advice received from the Committee on Research Grants (CORG) and the Committee on Targeted Research (CTR), Council adopted the status quo, which had been recommended by CORG. Consequently, adjuncts whose primary place of employment is other than a university, remain fully eligible. However, selection committees will have the flexibility to impose restrictions on the use of grant funds, if warranted. Council asked staff to ensure that selection committees implement this policy consistently.

Under the existing eligibility rule, individuals holding academic appointments with salary support from MRC or SSHRC are not eligible to Apply for or hold NSERC grants (e.g., MRC Scholars). However, given the potential for outstanding contributions by such individuals, Council agreed that provided these individuals hold an eligible appointment and are working in an eligible area of research, they should be eligible to Apply

for NSERC research grants.

Council approved a modification to the mandate of the Task Force on Women in Science and Engineering, as recommended by the Task Force itself following its first meeting in May. The revised mandate is to "Advise Council on how to create an environment that facilitates and encourages greater participation of women in science and engineering research in Canada, particularly through the core programs. The final report of the Task Force is expected in January 1996.

Council decided to review the budget allocations for 1996-97 and 1997-98 at its next meeting in October. This will give Council members time to reflect on the new fiscal reality, and to consider the recommendations of the Strategy Implementation Task Force, which may have a bearing on budget allocations. Additional budget cuts of $21.4 million and $37.5 million are still required in 1996-97 and 1997-98 respectively to meet the federal government's cost-cutting decisions made in February.

The only significant allocation decision made by Council in June was to transfer $3 million from Equipment Grants to Collaborative Special Project (CSP) Grants over the next two years, starting in 1995-96. This transfer is simply a return of funds that had been transferred to Equipment Grants during the previous three years when certain project funding was delayed.

Council approved the parameters for the Undergraduate Student Research Awards (USRA) program for small universities. Key among these was the definition of a "small university" and the formula to be used to calculate the USRA quota. A "small university" was defined as an institution that receives no more than $700,000 in research funding from NSERC, based on a three-year average of funding (e.g., research, strategic, research partnerships).

Formula to calculate the USRA Quota:

$$\frac{\text{Rolling 3-year average of PGS A awards at the university}}{\text{3-year average of PGS A awards at all qualifying universities}} \times \text{Total available USRAs}$$

Council agreed that the definition of a small university would be reviewed after one year, taking into consideration comments from the university community. Council adopted CTR's recommendation to consolidate and streamline a number of Research Partnerships Program elements. Given the minimal interest shown by the research community in the Request for Applications (RFA) and Shared Equipment and Facilities (SEF) programs over the several years of their existence, Council believed it would be more effective to terminate the programs and fold their objectives into the Collaborative Research and Development (CRD) program. Applications for the RFA and SEF programs received after September 1, 1995 will therefore be folded into this program. As well, Council agreed that the Industrially Oriented Research Grant (IOR) Program should be

refocused to become project-oriented. This change is also effective September 1.

Strategy Implementation Task Force - Update

At the beginning of June, NSERC circulated the report of its Strategy Implementation Task Force to the university community, and published it on the Internet via the Council's Gopher server. The Task Force had been mandated to advise Council on the best means to achieve the goals outlined in the 1994 Strategy document Partnerships in Knowledge. Dr. Raymond Price, Chair of the Task Force, presented its report to Council at the June meeting. However, because Council wishes to have the advice of the research community on the report's recommendations before entering into a detailed discussion of programming changes that might result from them, Council restricted itself to a very preliminary discussion of the report.

Over the summer, staff has been receiving input from the university research community and developing proposals for mechanisms to implement the various recommendations. These proposals will be discussed at the Council meeting in October 1995.

The Report

In approaching their task, members agreed that it would be prudent to focus on those activities which best address the Council's mandate, and reduce and simplify NSERC's programming. They further agreed that the implementation of NSERC's Strategy must be considered to be a continuous process, rather than simply a onetime effort.

The Task Force's discussions took as a starting point that the maintenance of strong university research and training is NSERC's (and therefore the Strategy's) primary goal. The group also agreed that the training of highly qualified personnel is essential to Canada's continued prosperity, and therefore NSERC must continue to provide support for such training. Finally, the Task Force stressed the need to enhance communication between researchers and the public. Alerting the public not only to the short-term achievements of science and technology, but also to the need for long-term basic research, was considered essential.

NSERC's four essential activities are: Research Grants, Equipment Grants, Targeted Research Grants, and Scholarships and Fellowships. On the subject of Research Grants, the Task Force agreed on the importance of providing support for collaboration, but that the need to streamline NSERC's programming made it imperative to support

collaboration within the Research Grants program, rather than separately. The Task Force also cautioned that any changes to the Research Grants program must preserve the program's current flexibility. Grantees must retain the freedom to change the direction of their research as it evolves, and evaluation criteria for the program must be Applicable to both basic and Applied research, in the natural sciences and in engineering. Excellence must remain the primary criterion for funding.

With regard to Targeted Research, the Task Force stated its belief in the strong need to show real and measurable impacts of NSERC-funded research. This demonstration requires the presence of collaborators in the research, and the transfer of the new knowledge to users capable of Applying it for Canada's benefit. The exposure of students to research outside the university is an important aspect of this collaboration with other sectors, and benefits both the student and the partner.

The Task Force was concerned with the perception that those receiving Postgraduate Scholarships are judged simply on the basis of their academic standing. Members believed that the highly qualified personnel required by Canada must be drawn from a wider pool. They stressed that marks are not the only harbinger of research ability and success, and that other considerations, among them leadership characteristics and interpersonal skills, are also important.

Recognizing that the need for student support varies among disciplines, the Task Force therefore advised that the Scholarships and Fellowships selection committees be given greater flexibility to allocate between Postgraduate Scholarships and Postdoctoral Fellowships. The Task Force also believes that a more extensive exchange of information between the Grant Selection Committees and the Scholarships and Fellowships Selection Committees, and between the Standing Committee on Research Grants and the Standing Committee on Scholarships and Fellowships, would improve the current system's responsiveness to the needs of the different disciplines. The Task Force also discussed the closely-connected issues of Accountability and Communications. The group considered that, under the current fiscal environment, and given the increasing public demands for government to be accountable to the taxpayer at all levels, open communication between researchers/students receiving public funds and the public itself is essential.

Main Recommendations:

- replace the Collaborative Project Grants program with a mechanism to encourage collaborative and interdisciplinary research within the Research Grants program;
- re-organize the Targeted Research programs into Strategic Partnerships and Research Networks, and require real financial contributions from partners for all Targeted programs;

- broaden the selection criteria for PGS awards to include qualities such as leadership abilities, communications skills, and interpersonal skills;
- require grantees and scholars to give a higher priority to communications and accountability in the use of NSERC funds; and
- establish mechanisms at NSERC to measure the impact of NSERC-funded research.

NSERC Issues Report on Concordia Grant Accounts

In July, NSERC completed a review of grant expenditures by researchers at Concordia University. The review, which followed up on an audit released by the university in 1994, found no evidence that researchers at Concordia used NSERC grant funds for personal or monetary benefit. NSERC also examined in detail the grant accounts of Drs. M.N.S. Swamy, S. Sankar, and T.S. Sankar, three former researchers of the Faculty of Engineering and Computer Science mentioned in the Concordia audit. During the review, the researchers were able to satisfy NSERC that their expenses were eligible under NSERC regulations. As a result, NSERC considers that their grant accounts are in order.

The NSERC review confirmed that the previous Concordia administration frequently permitted the use of NSERC funds for purposes not allowed under the terms of the grants. The practice was found to have occurred in all the Concordia faculties examined by Council. NSERC and Concordia are now finalizing the amount of ineligible expenditures to be repaid by the university.

University Site Visits, Fall 1995

Each fall, representatives of a number of NSERC Grant Selection Committees (GSCs) visit several universities. These visits are intended to: establish effective communication between NSERC and its GSCs and the research community; inform researchers of current NSERC policies and the specific practices of the GSCs; and provide an opportunity for the GSCs to target a feel for the research environment.

Beginning this year, site visits will be based on the general principles adopted by Council following a 1994 review of its site visit program, which took into account the program's objectives and Council's financial resources. Teams composed of 5-8 members of GSCs from related disciplines, accompanied by an NSERC staffperson, will visit the majority of universities in a three-year cycle (GSCs have been grouped into four broad

discipline groupings Life Sciences, Engineering, Physical Sciences, and Computational Sciences).

Site visits will begin with a general information session during which the Council staff member will brief attendees on current events at NSERC. GSC members will present information specific to their GSC, and a question-and-answer session will follow. The visiting team will then split up, and members from each GSC will meet with interested researchers in their discipline either individually or in small groups. These meetings are not mandatory. Applicants should judge whether they would benefit from such a meeting, keeping in mind that the visitors are interested in an overview of the Applicant's research interests and environment and any special problems or concerns that should be transmitted to the entire GSC. Visitors are not there to evaluate upcoming proposals or to comment on the specific assessment of an Application. The team may also schedule meetings with department heads, graduate students and postdoctoral fellows, or visit laboratories.

Should you require further information or have any comments regarding site visits, please contact Nancy Rock Portelance, Site Visit Coordinator, by telephone (613) 995-5810, by fax (613) 992-5337, or by E-mail: coord@nserc.ca.

Major Facilities Access Grants Replace Infrastructure Grants

As stated in NSERC's December 20, 1994 announcement on program changes, Infrastructure grants are being replaced by Major Facilities Access (MFA) grants. The new program will support researchers' access to facilities or research resources that are significant in size, value or importance and that are not routinely available in Canadian universitie (Local and other facilities previously supported through Infrastructure grants will now be supported by users through their grants.)

The facilities supported by MFA grants will be used by researchers from a number of institutions including universities, government laboratories, and companies within a region or across the country. The resources may include large special items of research equipment, specialized experimental facilities, or a core of highly skilled technical or professional research support staff essential to the research activities of a group.

Major Facilities Access grants will provide funding for costs such as the salaries of technical and professional research support staff employed to provide support to users, or to maintain and operate the facility. Funding for other direct costs such as materials, supplies, and small equipment essential to the maintenance and operation of the facility will also be

provided. Applicants will have to show that, inasmuch as possible, these costs and those directly related to a researcher's use of the resource are being recovered as user fees.

Competitions for MFA grants will be held every three years starting in 1996. The 1996-97 program budget was tentatively set at $3 million by Council. The deadline for Applications for the first competition will be October 1 1995. Applications will be reviewed by the Interdisciplinary Grant Selection Committee with input from the discipline grant selection committees (GSCs). This will ensure that all facilities are reviewed in competition with each other. Applications in sub-atomic physics (SAP) will be reviewed every year by that discipline's GSC in the context of the SAP budget envelope.

Applications will be reviewed on the basis of the following criteria:

- the extent to which researchers within a region or across the country need access to and actually use the facility;
- the scientific or engineering significance of the facility as well as its quality, uniqueness, and importance for the continuity of research programs that rely on access to the facility;
- the merit of the research programs that rely on access to the facility and the excellence of the user community;
- the need for centralized support through an MFA grant;
- the effectiveness of the facility's management; and
- the contribution of the facility to the training of highly qualified personnel.

During the years when no MFA competition is held, requests for operational as well as maintenance costs of new regional or national facilities will be considered as part of Major Equipment (ME) or Major Installation (MI) Applications. Facilities will then have to compete for an MFA grant.

Current Infrastructure grantees were informed of the phase-out or termination of their award and have been advised to Apply next fall for an MFA grant if their facility fits the new program's focus.

Potential Applicants will find more information on MFA grants in the program description that will be included in the 1995 Researcher's Guide to be distributed shortly through university research grants offices. The description will also be available from the Internet via NSERC's Gopher.

Results of the 1995 Scholarships and Fellowships Competition

NSERC's three scholarships and fellowships election

committees met in February to review 2,900 Applications for postgraduate scholarship (PGS) and 865 Applications for postdoctoral fellowships (PDF). The number of PGS Applications did not change significantly from the previous year, but 19% fewer PDF Applications were received in comparison to the 1994 competition.

The PGS and PDF competition results are summarized in the table below. The distribution of awards by discipline committee was determined by an allocation formula that provided or moderate steering at the PGS level to the Engineering/Computer Science disciplines, in comparison to the Life Sciences/Psychology and the Mathematical/Physical Sciences discipline groupings, each of which were given equal but lower priority. All three discipline groupings were given the same priority for the PDF allocation. (See the spring 1995 edition of Contact for additional details on the allocation formula.)

Due to continuing heavy commitments incurred from previous competitions and financial constraints resulting from the federal budget cutbacks, the number of new scholarships and fellowships that NSERC was able to offer for 1995-96 was similar to the 1994-95 Total. Overall success rates were also similar.

PGS and PDF 1995 Competition Results

Discipline Committee	Award Type	Number of Applications	Number of Award	Success Rate %
Engineering/	PGS	1,144	560	49.0
Computer Science	PDF	169	45	26.6
Life Sciences/	PGS	1,025	419	40.9
Psychology	PDF	349	77	22.1
Mathematical/	PGS	731	346	47.3
Physical Sciences	PDF	347	80	23.1
Total	PGS	2,900	1,325	45.7
	PDF	865	202	23.4

Charpak/Vered Exchange Fellowship Established

The Ottawa Chapter of the Canadian Society for the Weizmann Institute of Science has established a fund dedicated to promoting research exchanges between Canada and the Institute. The annual award is named after Georges Charpak, a renowned particle physicist at the European Organization for Nuclear Research (CERN) and the 1992 Nobel laureate for physics, and the Vered family of Ottawa, philanthropists and supporters of biomedical sciences. One Charpak/Vered exchange fellowship will be awarded each year until the fund is depleted. The program is aimed at promoting interdisciplinary research, as well as enhancing the linkages between the Weizmann Institute and Canada's university research community.

This new initiative will provide support for an NSERC Research Grant holder to do collaborative work at the Weizmann Institute of Science in Rehovot, Israel. Alternatively, the program enables an NSERC Research Grant holder to host a visiting fellow from the Weizmann Institute. Researchers in the physical and chemical sciences or engineering who wish to Apply their work in biological sciences are eligible. Detailed information on Application procedures will be available at university research grants offices and on the Internet via NSERC's Gopher server later this summer.

Update on Collaborative Project Grants Competition

This year, NSERC received 355 Applications (by the May 1, 1995 deadline date) for the 1995-96 Competition, compared to last year's Total of 974. The decrease resulted from a combination of two factors: last year's low success rate (11%), and this year's requirement that Applications be interdisciplinary.

Given the reduced number of Applications that have been submitted to the CPG Competition, the Phase I Peer Review process has been eliminated and replaced by a singlephase competition, to be held in September 1995. NSERC anticipates a success rate of approximately 20% in 1995-96, despite a reduction in the competition budget from $9M last year to $6M this year.

The "discipline-centred" panel structure, designed last year, required only minor modifications to accommodate the program's new interdisciplinary focus. The discipline-centres of the four panels fall roughly into the following areas:

- Life sciences
- Physical and earth sciences, and mathematics and statistics
- Engineering and computing sciences
- Health and environmental earth sciences

To fill the expected need for expertise in related areas, selected individuals have been added to each panel. As well, a number of Applications were cross-assigned to two panels.

NSERC received 355 Applications representing a Total of 1,051 Co-Applicants (an average of 3.0 Co-Applicants per Application). The discipline distribution of the 1995 Applicants and Co-Applicants is summarised in the Table. For ease of comparison, the distribution of the 1994 CPG competition is also given.

Distribution of Applicants (Appl) and Co-Applicants (CO Appl), by discipline

Discipline	1995 Appl.		1995 Co-Appl.		1995 Total		1994 Appl		1994 Co-Appl		1994 Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Earth Sciences	24	7.1	64	11.2	88	9.7	65	7.3	181	8.1	246	7.9
Interdisciplinary	1	0.3	5	0.9	6	0.7	7	0.8	25	1.1	32	1.0
Phys. Sciences	88	26.0	115	20.2	203	22.4	231	26.1	559	24.9	790	25.2
Life Sciences	129	38.2	194	34.0	323	35.6	225	25.4	537	23.9	762	24.4
Engineering	73	21.6	138	24.2	211	23.2	239	27.0	617	27.5	856	27.4
Math. and Stats.	14	4.1	25	4.4	39	4.3	73	8.3	192	8.6	265	8.5
Comp. & Inf. Sci.	9	2.7	29	5.1	38	4.2	45	5.1	134	6.0	179	5.7
Not known	17		481		498		89		1,707		1,796	
Total	355		1,051		1,406		974		3,952		4,926	

Accolades

Dr. Phillippe Gros, Associate Professor of Biochemistry at McGill University, has been chosen the first recipient of the Michael Smith Award for Excellence. The $50,000 award was established by the Medical Research Council to honour the 1993 Nobel Prize winner for chemistry. Dr. Gros was selected for his work in molecular genetics, in particular his cloning of two genes responsible for resistance to anticancer drugs and infections that cause diseases such as tuberculosis, salmonella, and leprosy. NSERC awarded one of its prestigious E.W.R. Steacie Memorial Fellowships to Dr. Gros in 1993.

Dr. Robert Haynes, OC, Distinguished Research Professor Emeritus of Biology at York University, recently succeeded Dr. John Meisel as President of the Royal Society of Canada. A long-time NSERC grantee, Dr. Haynes is also a past member and group chair of NSERC's Cell Biology & Genetics Grant Selection Committee (GSC), and past group chair of its Animal Biology, Plant Biology, and Psychology GSCs.

A research team headed by **Professor GA Dumont** of UBC's Electrical Engineering Department has won the Canadian Pulp and Paper Association's prestigious Weldon Medal for 1994. The award is made annually for the best paper by a member at a CPPA-sponsored conference. Professor Dumont's paper reported on thesis work by Dr. B. Allison (Paprican) in developing and implementing a novel control method for mechanical pulp refiners. Professor Dumont is a member of NSERC's Electromagnetics & Electrical Systems Engineering Grant Selection Committee.

The Canada Council recently presented its 1995 Izaak Walton Killam Memorial Prize for Natural Sciences) to **Dr. Myer Bloom**. The $50,000 Killam Prizes recognize worldclass achievements by Canadians in any of the disciplines in the natural sciences, health sciences, and engineering. The UBC physics professor is a widely recognized world expert in two very divergent specialities - nuclear magnetic resonance and the physical properties of biological membranes. Dr. Bloom is a Fellow of the Royal Society of Canada and of the American

Physical Society. He is a past member of NSERC's Physics Grant Selection Committee.

The following individuals, whose accomplishments are well known to NSERC's research community, were among the appointees to the Order of Canada announced June 29 by the Governor General of Canada, Roméo LeBlanc: Bertram Brockhouse was appointed a Companion of the Order; Philip Lapp, Gordon MacNabb (NSERC's founding president), Ronald Melzack, and Camille Sandorfy were appointed Officers; and Denis Gagnon (NSERC Council Member), Cyril Kay, and Peter Larkin (former NSERC Council Member), were appointed Members.

Research Update

Canadian Microelectronics Corporation grant renewed

In late January, NSERC signed a new $22.7 million agreement to support Canadian Microelectronics Corporation (CMC) activities over the next five years. The decision follows an international Peer Review Committee's strong vote of approval for CMC operations. The Committee referred to the spectacular impact of CMC in developing a Canadian research infrastructure for the design and application of microelectronic devices. CMC, it said, has made available state-of-the-art fabrication technologies, increased the number and quality of graduates, and built strong partnerships with Canadian industry. The achievements and the continuing significance of the microelectronics industry to Canada. NSERC's grant is dependent on CMC receiving equivalent contributions from industry.

Intelligent system control

The power, transportation, and manufacturing systems that make modern life possible are always open to improvements. A new NSERC chair team at the University of New Brunswick hopes to bring down the cost of control and instrumentation components, by using artificial intelligence and advanced computer-aided engineering software. Senior chairholder is Dr. James H. Taylor, formerly a manager of control and manufacturing at Odyssey Research Associates in Ithaca, N.Y.; previously, he was a senior research engineer at General Electric's Corporate Research and Development's Control Systems Laboratory. Monenco AGRA Inc., a major international contractor, is the major industrial co-sponsor of the new chair.

DowElanco sponsors its first NSERC IRC

A new five-year funding initiative, worth an estimated $1.5 million, will support an Industrial Chair in plant biotechnology

research at the University of Calgary. The DowElanco-NSERC Chair in Plant Biotechnology will be filled by Dr. Maurice Moloney, one of Canada's leading biotech researchers. Dr. Moloney has discovered several new methods of producing high-value proteins and peptides in oilseeds. Spinoffs could include more cost- effective ways to produce pharmaceuticals and enzymes, and modify canola meal to improve its value as livestock feed. Mr. John Oliver, President of DowElanco Canada Inc., said that the science has the potential to increase the value of Canadian oilseed crops and allow for the development of new commercial ventures in western Canada.

Long-lasting repairs

Thanks to an agreement between NSERC and several industrial and institutional partners, Laval University has a new NSERC Industrial Research Chair devoted to concrete repair technology. According to chairholder Dr. Michel Pigeon, the research program is focused primarily on the shotcrete technique i.e., shooting concrete (either dry or wet), an on patching as well as resurfacing roads. With improved scientific knowledge, the partners hope that the life expectancy of repairs will reach a minimum of 20 years, up from the one to five years that can be expected at this time. Such an advance would be of considerable economic benefit to Canada where concrete infrastructure repairs cost hundred of millions of dollars annually.

Created: 1995-10-03
Updated: 2004-02-25

Important Notices